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Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2008; month=2; day=7; hr=9; min=4; sec=23; ms=360;]

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Application No: 10776521 Version No: 4.0

Input Set:

Output Set:

Started: 2008-02-06 16:27:35.492
Finished: 2008-02-06 16:27:41.769
Elapsed: 0 hr(s) 0 min(s) 6 sec(s) 277 ms
Total Warnings: 339
Total Errors: 0
No. of SeqIDs Defined: 419
Actual SeqID Count: 419

Error code	Error Description
W 402	Undefined organism found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 402	Undefined organism found in <213> in SEQ ID (10)
W 402	Undefined organism found in <213> in SEQ ID (11)
W 402	Undefined organism found in <213> in SEQ ID (12)
W 402	Undefined organism found in <213> in SEQ ID (13)
W 402	Undefined organism found in <213> in SEQ ID (14)
W 402	Undefined organism found in <213> in SEQ ID (44)
W 402	Undefined organism found in <213> in SEQ ID (45)
W 402	Undefined organism found in <213> in SEQ ID (46)
W 402	Undefined organism found in <213> in SEQ ID (47)
W 402	Undefined organism found in <213> in SEQ ID (48)
W 402	Undefined organism found in <213> in SEQ ID (57)

Input Set:

Output Set:

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Total Warnings: 339
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Actual SeqID Count: 419

Error code	Error Description
W 402	Undefined organism found in <213> in SEQ ID (58)
W 402	Undefined organism found in <213> in SEQ ID (59)
W 402	Undefined organism found in <213> in SEQ ID (60)
W 402	Undefined organism found in <213> in SEQ ID (61)
W 402	Undefined organism found in <213> in SEQ ID (62)
W 402	Undefined organism found in <213> in SEQ ID (63)
W 402	Undefined organism found in <213> in SEQ ID (64)
W 402	Undefined organism found in <213> in SEQ ID (65) This error has occurred more than 20 times, will not be displayed
W 213	Artificial or Unknown found in <213> in SEQ ID (132)
W 213	Artificial or Unknown found in <213> in SEQ ID (133)
W 213	Artificial or Unknown found in <213> in SEQ ID (134)
W 213	Artificial or Unknown found in <213> in SEQ ID (135)
W 213	Artificial or Unknown found in <213> in SEQ ID (136)
W 213	Artificial or Unknown found in <213> in SEQ ID (137)
W 213	Artificial or Unknown found in <213> in SEQ ID (138)
W 213	Artificial or Unknown found in <213> in SEQ ID (139)
W 213	Artificial or Unknown found in <213> in SEQ ID (140)
W 213	Artificial or Unknown found in <213> in SEQ ID (141)
W 213	Artificial or Unknown found in <213> in SEQ ID (142)
W 213	Artificial or Unknown found in <213> in SEQ ID (143) This error has occurred more than 20 times, will not be displayed
W 251	Found intentionally skipped sequence in SEQID (384)

Input Set:

Output Set:

Started: 2008-02-06 16:27:35.492
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Total Warnings: 339
Total Errors: 0
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Error code	Error Description
W 251	Found intentionally skipped sequence in SEQID (385)
W 251	Found intentionally skipped sequence in SEQID (387)
W 251	Found intentionally skipped sequence in SEQID (388)

SEQUENCE LISTING

<110> Fletchner, Jessica
Prince-Cohane, Kenya
Mehta, Sunil
Slusarewicz, Paul
Andjelic, Sofija
Barber, Brian

<120> IMPROVED HEAT SHOCK PROTEIN-BASED VACCINES AND
IMMUNOTHERAPIES

<130> 8449-405-999

<140> 10776521

<141> 2004-02-12

<150> 60/503,417

<151> 2003-09-16

<150> 60/463,746

<151> 2003-04-18

<150> 60/462,469

<151> 2003-04-11

<150> 60/447,142

<151> 2003-02-13

<160> 419

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 4

<212> PRT

<213> Malaria

<400> 1

Asn Ala Asn Pro

1

<210> 2

<211> 9

<212> PRT

<213> Unknown

<220>

<223> HLA-A2 peptide binding motif

<220>

<221> VARIANT

<222> 2

<223> Xaa = Leu or Met

<220>
<221> VARIANT
<222> 6
<223> Xaa = Val or Ile or Leu or Thr

<220>
<221> VARIANT
<222> 9
<223> Xaa = Val or Leu

<220>
<221> VARIANT
<222> 1,3 , 4, 5, 7, 8
<223> Xaa = any amino acid

<400> 2
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 3
<211> 9
<212> PRT
<213> Unknown

<220>
<223> HLA-A2 peptide binding motif

<220>
<221> VARIANT
<222> 2
<223> Xaa = Leu or Met

<220>
<221> VARIANT
<222> 1, 3, 4, 5, 6, 7, 8
<223> Xaa = any amino acid

<400> 3
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val
1 5

<210> 4
<211> 8
<212> PRT
<213> Unknown

<220>
<223> HLA-A2 peptide binding motif

<220>
<221> VARIANT
<222> 2
<223> Xaa = Val or Gln

<220>
<221> VARIANT
<222> 1, 3, 4, 5, 6, 7,
<223> Xaa = any amino acid

<400> 4
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu
1 5

<210> 5
<211> 5
<212> PRT
<213> Unknown

<220>
<223> HLA-DR peptide binding motif

<400> 5
Gln Lys Arg Ala Ala
1 5

<210> 6
<211> 5
<212> PRT
<213> Unknown

<220>
<223> HLA-DR peptide binding motif

<400> 6
Arg Arg Arg Ala Ala
1 5

<210> 7
<211> 7
<212> PRT
<213> Unknown

<220>
<223> motif in heptameric region recognized by heat
shock protein

<220>
<221> VARIANT
<222> 2
<223> Xaa = Trp or any amino acid

<220>
<221> VARIANT
<222> 1, 3, 5, 7
<223> Xaa = hydrophobic amino acid residues

<220>
<221> VARIANT

<222> 4, 6

<223> Xaa = any amino acid

<400> 7

Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 8

<211> 7

<212> PRT

<213> Unknown

<220>

<223> motif in heptameric region recognized by heat
shock protein

<220>

<221> VARIANT

<222> 2

<223> Xaa = Trp or any amino acid

<220>

<221> VARIANT

<222> 1, 3, 5, 7,

<223> Xaa = hydrophobic amino acid residue, particularly
tryptophan, leucine or phenylalanine

<220>

<221> VARIANT

<222> 4, 6

<223> Xaa = any amino acid

<400> 8

Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 9

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> mutated heat shock protein peptide

<400> 9

Lys Asp Glu Leu

1

<210> 10

<211> 10

<212> PRT

<213> Adeno Virus

<400> 10

Ser Gly Pro Ser Asn Thr Pro Pro Glu Ile

<400> 16

Thr Tyr Val Ser Val Ser Thr Ser Thr Leu
1 5 10

<210> 17

<211> 8

<212> PRT

<213> Influenza Virus

<400> 17

Phe Glu Ala Asn Gly Asn Leu Ile
1 5

<210> 18

<211> 9

<212> PRT

<213> Influenza Virus

<400> 18

Ile Tyr Ser Thr Val Ala Ser Ser Leu
1 5

<210> 19

<211> 9

<212> PRT

<213> Influenza Virus

<400> 19

Thr Tyr Gln Arg Thr Arg Ala Leu Val
1 5

<210> 20

<211> 9

<212> PRT

<213> Influenza Virus

<400> 20

Cys Thr Glu Leu Lys Leu Ser Asp Tyr
1 5

<210> 21

<211> 8

<212> PRT

<213> Influenza Virus

<400> 21

Ser Asp Tyr Glu Gly Arg Leu Ile
1 5

<210> 22

<211> 9
<212> PRT
<213> Influenza Virus

<400> 22
Glu Glu Gly Ala Ile Val Gly Glu Ile
1 5

<210> 23
<211> 9
<212> PRT
<213> Influenza Virus

<400> 23
Val Ser Asp Gly Gly Pro Asn Leu Tyr
1 5

<210> 24
<211> 9
<212> PRT
<213> Influenza Virus

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Ala Ser Asn Glu Asn Met Glu Thr Met
1 5

<210> 25
<211> 9
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<213> Influenza Virus

<400> 25
Ala Ser Asn Glu Asn Met Asp Ala Met
1 5

<210> 26
<211> 10
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<213> Influenza Virus

<400> 26
Lys Leu Gly Glu Phe Tyr Asn Gln Met Met
1 5 10

<210> 27
<211> 9
<212> PRT
<213> Influenza Virus

<400> 27
Leu Tyr Gln Asn Val Gly Thr Tyr Val
1 5

<210> 28
<211> 10
<212> PRT
<213> Influenza Virus

<400> 28
Thr Tyr Val Ser Val Gly Thr Ser Thr Leu
1 5 10

<210> 29
<211> 8
<212> PRT
<213> Influenza Virus

<400> 29
Phe Glu Ser Thr Gly Asn Leu Ile
1 5

<210> 30
<211> 9
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<213> Influenza Virus

<400> 30
Val Tyr Gln Ile Leu Ala Ile Tyr Ala
1 5

<210> 31
<211> 9
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<400> 31
Ile Tyr Ala Thr Val Ala Gly Ser Leu
1 5

<210> 32
<211> 9
<212> PRT
<213> Influenza Virus

<400> 32
Gly Ile Leu Gly Phe Val Phe Thr Leu
1 5

<210> 33
<211> 10
<212> PRT
<213> Influenza Virus

<400> 33
Ile Leu Gly Phe Val Phe Thr Leu Thr Val
1 5 10

<210> 34
<211> 9
<212> PRT
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<400> 34
Ile Leu Arg Gly Ser Val Ala His Lys
1 5

<210> 35
<211> 9
<212> PRT
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<400> 35
Glu Asp Leu Arg Val Leu Ser Phe Ile
1 5

<210> 36
<211> 9
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<213> Influenza Virus

<400> 36
Glu Leu Arg Ser Arg Tyr Trp Ala Ile
1 5

<210> 37
<211> 9
<212> PRT
<213> Influenza Virus
<400> 37
Ser Arg Tyr Trp Ala Ile Arg Thr Arg
1 5

<210> 38
<211> 9
<212> PRT
<213> Influenza Virus

<400> 38
Lys Thr Gly Gly Pro Ile Tyr Lys Arg
1 5

<210> 39
<211> 9
<212> PRT

<213> Sendai Virus

<400> 39

Phe Ala Pro Gly Asn Tyr Pro Ala Leu
1 5

<210> 40

<211> 9

<212> PRT

<213> Measles Virus

<400> 40

Arg Arg Tyr Pro Asp Ala Val Tyr Leu
1 5

<210> 41

<211> 9

<212> PRT

<213> Measles Virus

<400> 41

Asp Pro Val Ile Asp Arg Leu Tyr Leu
1 5

<210> 42

<211> 9

<212> PRT

<213> Measles Virus

<400> 42

Ser Pro Gly Arg Ser Phe Ser Tyr Phe
1 5

<210> 43

<211> 9

<212> PRT

<213> Measles Virus

<400> 43

Tyr Pro Ala Leu Gly Leu His Glu Phe
1 5

<210> 44

<211> 8

<212> PRT

<213> Polio Virus

<400> 44

Thr Tyr Lys Asp Thr Val Gln Leu
1 5

<210> 45
<211> 10
<212> PRT
<213> Polio Virus

<400> 45
Phe Tyr Asp Gly Phe Ser Lys Val Pro Leu
1 5 10

<210> 46
<211> 11
<212> PRT
<213> Human Cytomegalovirus (HCMV)

<400> 46
Phe Ile Ala Gly Asn Ser Ala Tyr Glu Tyr Val
1 5 10

<210> 47
<211> 9
<212> PRT
<213> Mouse Cytomegalovirus (MCMV)

<400> 47
Tyr Pro His Phe Met Pro Thr Asn Leu
1 5

<210> 48
<211> 9
<212> PRT
<213> Coronavirus

<400> 48
Ala Pro Thr Ala Gly Ala Phe Phe Phe
1 5

<210> 49
<211> 11
<212> PRT
<213> Hepatitis B Virus

<400> 49
Ser Thr Leu Pro Glu Thr Thr Val Val Arg Arg
1 5 10

<210> 50
<211> 10
<212> PRT
<213> Hepatitis B Virus

<400> 50
Phe Leu Pro Ser Asp Phe Phe Pro Ser Val

1 5 10

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<210> 51
<211> 9
<212> PRT
<213> Hepatitis B Virus
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Trp Leu Ser Leu Leu Val Pro Phe Val
  1                      5
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<210> 52
<211> 10
<212> PRT
<213> Hepatitis B Virus
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<400> 52
Gly Leu Ser Pro Thr Val Trp Leu Ser Val
  1             5             10
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<210> 53
<211> 9
<212> PRT
<213> Hepatitis C Virus
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Asp Leu Met Gly Tyr Ile Pro Leu Val
 1               5
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<210> 54
<211> 10
<212> PRT
<213> Hepatitis C Virus
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Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
  1             5             10
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<211> 8
<212> PRT
<213> Hepatitis C Virus
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<400> 55
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<210> 56
<211> 10
<212> PRT
<213> Hepatitis C Virus
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<400> 56

Lys Leu Val Ala Leu Gly Ile Asn Ala Val
1 5 10

<210> 57

<211> 9

<212> PRT

<213> Epstein Barr Virus

<400> 57

Phe Leu Arg Gly Arg Ala Tyr Gly Leu
1 5

<210> 58

<211> 9

<212> PRT

<213> Epstein Barr Virus

<400> 58

Arg Arg Ile Tyr Asp Leu Ile Glu Leu
1 5

<210> 59

<211> 9

<212> PRT

<213> Epstein Barr Virus

<400> 59

Ile Val Thr Asp Phe Ser Val Ile Lys
1 5

<210> 60

<211> 9

<212> PRT

<213> Epstein Barr Virus

<400> 60

Arg Arg Arg Trp Arg Arg Leu Thr Val
1 5

<210> 61

<211> 10

<212> PRT

<213> Epstein Barr Virus

<400> 61

Glu Glu Asn Leu Leu Asp Phe Val Arg Phe
1 5 10

<210> 62

<211> 9
<212> PRT
<213> Epstein Barr Virus

<400> 62
Cys Leu Gly Gly Leu Leu Thr Met Val
1 5

<210> 63
<211> 8
<212> PRT
<213> Herpes Simplex Virus

<400> 63
Ser Ser Ile Glu Phe Ala Arg Leu
1 5

<210> 64
<211> 11
<212> PRT
<213> Herpes Simplex Virus

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Leu Tyr Arg Thr Phe Ala Gly Asn Pro Arg Ala
1 5 10

<210> 65
<211> 9
<212> PRT
<213> Herpes Simplex Virus

<400> 65
Asp Tyr Ala Thr Leu Gly Val Gly Val
1 5

<210> 66
<211> 9
<212> PRT
<213> Human Papilloma Virus

<400> 66
Leu Leu Leu Gly Thr Leu Asn Ile Val
1 5

<210> 67
<211> 9
<212> PRT
<213> Human Papilloma Virus

<400> 67
Leu Leu Met Gly Thr Leu Gly Ile Val
1 5

<210> 68
<211> 9
<212> PRT
<213> Human Papilloma Virus

<400> 68
Thr Leu Gln Asp Ile Val Leu His Leu
1 5

<210> 69
<211> 9
<212> PRT
<213> Human Papilloma Virus

<400> 69
Gly Leu His Cys Tyr Glu Gln Leu Val
1 5

<210> 70
<211> 9
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<213> Human Papilloma Virus

<400> 70
Pro Leu Lys Gln His Phe Gln Ile Val
1 5

<210> 71
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<213> Human Papilloma Virus

<400> 71
Arg Leu Val Thr Leu Lys Asp Ile Val
1 5

<210> 72
<211> 9
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<213> Human Papilloma Virus

<400> 72
Arg Ala His Tyr Asn Ile Val Thr Phe
1 5

<210> 73
<211> 9
<212> PRT
<213> Human T-cell Leukemia Virus

<400> 73

Leu Leu Phe Gly Tyr Pro Val Tyr Val

1 5

<210> 74

<211> 10

<212> PRT

<213> Simian Virus 40

<400> 74

Ser Ala Ile Asn Asn Tyr Ala Gln Lys Leu

1 5 10

<210> 75

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 75

His Gln Ala Ile Ser Pro Arg Thr Leu

1 5

<210> 76

<211> 12

<212> PRT

<213> Human Immunodeficiency Virus

<400> 76

Gln Met Val His Gln Ala Ile Ser Pro Arg Thr Leu

1 5 10

<210> 77

<211> 9

<212> PRT

<213> Simian Virus 40

<400> 77

Cys Lys Gly Val Asn Lys Glu Tyr Leu

1 5

<210> 78

<211> 9

<212> PRT

<213> Simian Virus 40

<400> 78

Gln Gly Ile Asn Asn Leu Asp Asn Leu

1 5

<210> 79

<211> 9

<212> PRT

<213> Simian Virus 40

<400> 79

Asn Asn Leu Asp Asn Leu Arg Asp Tyr

1 5

<210> 80

<211> 9

<212> PRT

<213> Simian Virus 40

<400> 80

Ser Glu Phe Leu Leu Glu Lys Arg Ile

1 5

<210> 81

<211> 9

<212> PRT

<213> Respiratory Syncytial Virus

<400> 81

Ser Tyr Ile Gly Ser Ile Asn Asn Ile

1 5

<210> 82

<211> 10

<212> PRT

<213> Human Immunodeficiency Virus

<400> 82

Ile Leu Gly Asn Lys Ile Val Arg Met Tyr

1 5 10

<210> 83

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 83

Arg Leu Arg Pro Gly Gly Lys Lys Lys

1 5

<210> 84

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 84

Glu Ile Lys Asp Thr Lys Glu Ala Leu

1 5

<210> 85
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1 5

<210> 86
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<400> 86
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1 5

<210> 87
<211> 9
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<213> Human Immunodeficiency Virus

<400> 87
Arg Tyr Leu Lys Asp Gln Gln Leu Leu
1 5

<210> 88
<211> 10
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<213> Human Immunodeficiency Virus

<400> 88
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1 5 10

<210> 89
<211> 9
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<213> Human Immunodeficiency Virus

<400> 89
Ile Val Gly Leu Asn Lys Ile Val Arg
1 5

<210> 90
<211> 10
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<213> Human Immunodeficiency Virus

<400> 90

Thr Val Tyr Tyr Gly Val Pro Val Trp Lys
1 5 10

<210> 91

<211> 11

<212> PRT

<213> Human Immunodeficiency Virus

<400> 91

Arg Leu Arg Asp Leu Leu Leu Ile Val Thr Arg
1 5 10

<210> 92

<211> 10

<212> PRT

<213> Human Immunodeficiency Virus

<400> 92

Lys Arg Trp Ile Ile Leu Gly Leu Asn Lys
1 5 10

<210> 93

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 93

Ser Phe Asn Cys Gly Gly Glu Phe Phe
1 5

<210> 94

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 94

Gly Arg Ala Phe Val Thr Ile Gly Lys
1 5

<210> 95

<211> 10

<212> PRT

<213> Human Immunodeficiency Virus

<400> 95

Thr Pro Gly Pro Gly Val Arg Tyr Pro Leu
1 5 10

<210> 96

<211> 10

<212> PRT

<213> Human Immunodeficiency Virus

<400> 96

Gln Val Pro Leu Arg Pro Met Thr Tyr Lys
1 5 10

<210> 97

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 97

Thr Glu Met Glu Lys Glu Gly Lys Ile
1 5

<210> 98

<211> 9

<212> PRT

<213> Human Immunodeficiency Virus

<400> 98

Ile Leu Lys Glu Pro Val His Gly Val
1 5

<210> 99

<211> 9

<212> PRT

<213> Rabies Virus

<400> 99

Val Glu Ala Glu Ile Ala His Gln Ile
1 5

<210> 100

<211> 8

<212> PRT

<213> Vesicular Stomatitis Virus

<400> 100

Arg Gly Tyr Val Tyr Gln Gly Leu
1 5

<210> 101

<211> 9

<212> PRT

<213> Rotavirus

<400> 101

Tyr Ser Gly Tyr Ile Phe Arg Asp Leu
1 5

<210> 102

<211> 9

<212> PRT

<213> Rotavirus

<400> 102

Val Gly Pro Val Phe Pro Pro Gly Met

1 5

<210> 103

<211> 8

<212> PRT

<213> Rotavirus

<400> 103

Ile Ile Tyr Arg Phe Leu Leu Ile

1 5

<210> 104

<211> 9

<212> PRT

<213> Listeria innocua

<400> 104

Lys Tyr Gly Val Ser Val Gln Asp Ile

1 5

<210> 105

<211> 9

<212> PRT

<213> Yersinia pseudotuberculosis

<400> 105

Ile Gln Val Gly Asn Thr Arg Thr Ile

1 5

<210> 106

<211> 9

<212> PRT

<213> E.coli

<400> 106

Thr Pro His Pro Ala Arg Ile Gly Leu

1 5

<210> 107

<211> 9

<212> PRT

<213> P. falciparum

<400> 107

Ser Tyr Ile Pro Ser Ala Glu Lys Ile

